CHAPTER 720.
WATER QUALITY MANAGEMENT PLANNING REGULATION.

9 VAC 25-720-50. Potomac - Shenandoah River Basin.

A. Total maximum daily load (TMDLs).

TMDL #	Stream Name	TMDL Title	City/ County	WBID	Pollutant	WLA	Units
1.	Muddy Creek	Nitrate TMDL Development for Muddy Creek/Dry River, Virginia	Rockingham	B21R	Nitrate	49,389.00	LB/YR
2.	Cockran Spring	Benthic TMDL Reports for Six Impaired Stream Segments in the Potomac-Shenandoah and James River Basins	Augusta	B10R	Organic Solids	1,556.00	LB/YR
3.	Lacey Spring	Benthic TMDL Reports for Six Impaired Stream Segments in the Potomac-Shenandoah and James River Basins	Rockingham	B47R	Organic Solids	680.00	LB/YR
4.	Orndorff Spring	Benthic TMDL Reports for Six Impaired Stream Segments in the Potomac-Shenandoah and James River Basins	Shenandoah	B52R	Organic Solids	103.00	LB/YR
5.	Blacks Run	TMDL Development for Blacks Run and Cooks Creek	Rockingham	B25R	Sediment	32,844.00	LB/YR
6.	Cooks Creek	TMDL Development for Blacks Run and Cooks Creek	Rockingham	B25R	Sediment	69,301.00	LB/YR

7.	Cooks Creek	TMDL Development for Blacks Run and Cooks Creek	Rockingham	B25R	Phosphorus	0.00	LB/YR
8.	Muddy Creek	TMDL Development for Muddy Creek and Holmans Creek, Virginia	Rockingham	B22R	Sediment	286,939.00	LB/YR
9.	Muddy Creek	TMDL Development for Muddy Creek and Holmans Creek, Virginia	Rockingham	B22R	Phosphorus	38.00	LB/YR
10.	Holmans Creek	TMDL Development for Muddy Creek and Holmans Creek, Virginia	Rockingham/ Shenandoah	B45R	Sediment	78,141.00	LB/YR
11.	Mill Creek	TMDL Development for Mill Creek and Pleasant Run	Rockingham	B29R	Sediment	276.00	LB/YR
12.	Mill Creek	TMDL Development for Mill Creek and Pleasant Run	Rockingham	B29R	Phosphorus	138.00	LB/YR
13.	Pleasant Run	TMDL Development for Mill Creek and Pleasant Run	Rockingham	B27R	Sediment	0.00	LB/YR
14.	Pleasant Run	TMDL Development for Mill Creek and Pleasant Run	Rockingham	B27R	Phosphorus	0.00	LB/YR
15.	Linville Creek	Total Maximum Load Development for Linville Creek: Bacteria and Benthic Impairments	Rockingham	B46R	Sediment	5.50	TONS/YR
16.	Quail Run	Benthic TMDL for Quail Run	Rockingham	B35R	Ammonia	7,185.00	KG/YR

17.	Quail Run	Benthic TMDL for Quail Run	Rockingham	B35R	Chlorine	27.63	KG/YR
18.	Shenandoah River	Development of Shenandoah River PCB TMDL (South Fork and Main Stem)	Warren & Clarke	B41R, B55R, B57R, B58R	PCBs	179.38	G/YR
19.	Shenandoah River	Development of Shenandoah River PCB TMDL (North Fork)	Warren & Clarke	B51R	PCBs	0.00	G/YR
20.	Shenandoah River	Development of Shenandoah River PCB TMDL (Main Stem)	Warren & Clarke	WV	PCBs	179.38	G/YR
21.	Abrams Creek	Opequon Watershed TMDLs for Benthic Impairments: Abrams Creek and Lower Opequon Creek, Frederick and Clarke Counties, Virginia	Frederick	B09R	Sediment	470.07	TONS/YR
22.	Opequon Creek	Opequon Watershed TMDLs for Benthic Impairments: Abrams Creek and Lower Opequon Creek, Frederick and Clarke Counties, Virginia	Frederick, Clarke	B09R, B08R	Sediment	892.37	TONS/YR

B. Stream segment classifications, effluent limitations including water quality based effluent limitations, and waste load allocations.

TABLE B1 - POTOMAC RIVER SUB-BASIN RECOMMENDED SEGMENT CLASSIFICATIONS

SEGMENT NUMBER	DESCRIPTION OF SEGMENT	MILE TO MILE	CLASSIFICATION
1-23	Potomac River tributaries from the Virginia-West Virginia state line downstream to the boundary of the Dulles Area Watershed Policy	176.2 – 149.0	WQ
1-24	Potomac River tributaries located within the boundaries of the Dulles Area Watershed Policy	149.0 – 118.4	WQ
1-25	Potomac River tributaries from the downstream limit of the Dulles Area Watershed Policy to Jones Point	118.4 – 107.6	WQ
1-26	Potomac River tributaries from Jones Point downstream to Route 301 bridge	107.6 – 50.2	WQ
1-27	All Streams included in the Occoquan Watershed Policy	_____	WQ
1-28	Potomac tributaries from Route 301 bridge downstream to the mouth of the Potomac River	50.2-0.0	EL

TABLE B2 – POTOMAC RIVER SUB-BASIN - RECOMMENDED PLAN FOR WASTEWATER FACILITIES

FACILITY NUMBER	NAME	RECEIVING STREAM	RECOMMENDED ACTION	SIZE	TREATMENT LEVEL (4)	BOD_5	OUD	TKN	P	INSTITUTIONAL ARRANGEMENT
1	Hillsboro	North Fork Catoctin Creek WQ (1 –23)	Construct new facility	.043[2]	AWT	7[7]	-	-	-	Loudoun County Sanitation Authority (LCSA)
2	Middleburg	Wancopin Creek WQ (1-23)	Construct new facility; abandon old facility	.135	AST	14[5]	-	-	-	LCSA
3	Middleburg East and West	Unnamed tributary to Goose Creek WQ (1 –23)	Abandon- pump to new facility							
4	Round Hill	North Fork Goose Creek	No further action recommended	.2	AWT	10[5]	-	-	-	Town of Round Hill

5	St. Louis	Beaver Dam Creek WQ (1-23)	Construct new facility	.086	AST	20[5]	-	-	-	LSCA
6	Waterford	South Fork Catoctin Creek WQ (1-23)	No further action recommended	.058	AST	24[5]	-	-	-	LSCA
7	Hamilton	Unnamed tributary to South Fork of Catoctin Creek WQ (1-23)	Upgrade and or expand	.605[2]	AWT	7[7]	-	-	-	Town of Hamilton
8	Leesburg	Tuscarora Creek (1-24)	Upgrade and or expand	2.5	AWT	1[9]	-	1	0.1	Town of Leesburg
9	Lovettesville	Dutchman Creek WQ (1-23)	Upgrade and or expand	.269[2]	AWT	7[7]	-	-	-	Town of Lovetteville
10	Purcellville	Unnamed tributary to North Fork Goose Creek WQ (1-23)	No further action recommended	.5	AST	15[5]	-	-	-	Town of Purcellville
11	Paeonian Springs	Unnamed tributary to South Fork of Catoctin Creek WQ (1-23)	Construct new facility	.264[2]	AWT	7[7]	-	-	-	LCSA
12	Cedar Run Regional	Walnut Branch or Kettle Run WQ (1-27)	Construct new facility	1.16[2]	AWT	1[6]	-	1	0.1	Fauquier County Sanitation Authority
13	Vint Hill Farms	South Run (1-27)	Upgrade and/or expand	.246	AST	14[5]	-	-	2.5	U.S. Army

14	Arlington	Four Mile Run WQ (1-25)	Upgrade and/or expand	30[3]	AWT	3[8]	-	1	0.2	Arlington County
15	Alexandria	Hunting Creek WQ (1-26)	Upgrade and/or expand	54	AWT	3[8]	-	1	.02	Alexandria Sanitation Authority
16	Westgate	Potomac River WQ (1-26)	Abandon- pump to Alexandria							
17	Lower Potomac	Pohick Creek WQ (1-26)	Upgrade and/or expand	36(3)	AWT	3/8	-	1	0.2	Fairfax County
18	Little Hunting Creek	Little Hunting Creek WQ (1-26)	Abandon- pump to Lower Potomac							
19	Doque Creek	Doque Creek WQ (1-26)	Abandon- pump to Lower Potomac							
20	Fort Belvoir 1 and 2	Doque Creek WQ (1-26)	Abandon- pump to Lower Potomac							
21	Lorton	Mills Branch WQ (1-26)	Upgrade and/or expand	1.0	AWT	3[11]	-	1	0.1	District of Columbia
22	UOSA	Tributary to Bull Run WQ (1-27)	Expanded capacity by 5 mgd increments	10.9[3]	AWT	1[6]	-	1	0.1	USOA
23	Gainesville Haymarket	Tributary Rock Branch WQ (1-27)	Abandon Pump to UOSA							
24	Potomac (Mooney)	Neabsco Creek WQ (1-26)	Construct new facility	12[3]	AWT	3[8]	-	1	0.2	Occoquan-Woodbridge Dumfries-Triangle Sanitary District
25	Belmont	Marumsco Creek WQ (1-26)	Abandon- pump to Potomac							

26	Featherstone	Farm Creek WQ (1-26)	Abandon- pump to Potomac							
27	Neabsco	Neabsco Creek WQ (1-26)	Abandon- pump to Potomac							
28	Dumfries	Quantico Creek WQ (1-26)	Abandon- pump to Potomac							
29	Dale City #1	Neabsco Creek WQ (1-26)	Upgrade and /or expand	4.0	AWT	3[8]	-	1	0.2	Dale Service Corporation (DSC)
30	Dale City #8	Neabsco Creek WQ (1-26)	Upgrade and /or expand	2.0	AWT	3[8]	1	1	0.2	DSC
31	Quantico Mainside	Potomac River WQ (1-26)	Upgrade and /or expand	2.0	AWT	3[8]	-	1	0.2	U.S. Marine Corps
32	Aquia Creek	Austin Run WQ (1-26)	Construct new facility	3.0	AWT	3[8]	-	1	0.2	Aquia Sanitary District
33	Aquia	Aquia Creek WQ (1-26)	Abandon- pump to new facility							
34	Fairview Beach	Potomac River (estuary)	Construct new facility	.05	Secondary	Secondary	-	-	-	Fairview Beach Sanitary District
35	Dahlgren	Upper Machodoc Creek WQ (1-28)	Upgrade and/or expand	.2	Secondary	Secondary	-	-	-	Dahlgren Sanitary District
36	Colonial Beach	Monroe Creek EL (1-28)	No further action recommended	.85	Secondary	28[5] [13]				Town of Colonial Beach
37	Machodoc Kinsale		Construct new facility	.89	Secondary & Spray Irrigation	48[10] [13]	-	-	-	Machodoc Kinsale Sanitary District
38	Callao		Construct new facility	.25	Secondary & Spray Irrigation	48[10] [13]	-	-	-	Callao Sanitary District

39	Heathsville		Construct new facility	.10	Secondary & Spray Irrigation	48[10] [13]	-	-	-	Heathsville Sanitary District
40	King George Courthouse	Pine Creek	Construct new facility	.039	Secondary	30[13]	-	-	-	King George County

TABLE B2 - NOTES: POTOMAC RIVER SUB-BASIN - RECOMMENDED PLAN FOR WASTEWATER TREATMENT FACILITIES

[1] Year 2000 design flow 201 Facility Plan, P.L. 92-500, unless otherwise noted.

[2] Year 2000 average flow from Potomac/Shenandoah 303(e) Plans, Vol V-A Appendix, 1975 pp. B-33-B-44.

[3] Future expansion at unspecified date.

[4] Secondary treatment: 24-30 mg/l BOD_5, advanced secondary treatment (AST): 11-23 mg/l, advanced wastewater treatment (AWT): <10mg/l BOD_5. A range is given to recognize that various waste treatment.processes have different treatment efficiencies.

[5] Effluent limits calculated using mathematical modeling.

[6] Effluent limits based on Occoquan Watershed Policy, presented under reevaluation.

[7] Effluent limits based on treatment levels established by the Potomac/Shenandoah 303(e) Plan, Vol. V-A 1975, p. 237, to protect low flow streams and downstream water supply.

[8] Effluent limits based on Potomac River Embayment Standards, presently under reevaluation. Nitrogen removal limits deferred until reevaluation is complete.

[9] Effluent limits based on Dulles Watershed Policy, recommended for reevaluation. Interim effluent limits of 12 mg/l BOD_5 and 20 mg/l Suspended Solids will be met until the Dulles Area Watershed Standards are reevaluated.

[10] Effluent limits based on Virginia Sewerage Regulation, Section 33.02.01.

[11] Interim effluent limits of 30 mg/l BOD_5, 30mg/l Suspended Solids, and 4 mg/l Phosphorus, will be effective until average daily flows exceeds 0.75 MGD. At greater flows than 0.75 MGD, the effluent limitations will be defined by the Potomac Embayment Standards.

(12) Secondary treatment is permitted for this facility due to the the extended outfall into the main stem of the Potomac River.

(13) This facility was also included in the Rappahannock Area Development Commission (RADCO) 208 Areawide Waste Treatment Management Plan and Potomac-Shenandoah River Basin 303 (e) Water Quality Management Plan.

TABLE B3 - SHENANDOAH RIVER SUB-BASIN RECOMMENDED SEGMENT CLASSIFICATIONS

SEGMENT NUMBER	DESCRIPTION OF SEGMENT	MILE TO MILE	CLASSIFICATION
1-1	North River-main stream and tributaries excluding segments 1-1a, 1-1b	56.4-0.0	EL
1-1a	Muddy Creek-main stream and War Branch, RM 0.1-0.0	3.7 - 1.7	WQ
1-1b	North River-main stream	16.1 - 4.6	WQ
1-2	Middle River-main stream and tributaries excluding segments 1-2a, 1-2b	69.9 - 0.0	EL
1-2a	Middle River-main stream	29.5 - 17.9	WQ
1-2b	Lewis Creek-main stream	9.6 - 0.0	WQ
1-3	South River-main stream and tributaries excluding segment 1-3a	52.2 - 0.0	EL
1-4	South Fork Shenandoah-main stream and tributaries excluding segments 1-4a, 1-4b, 1-4c	102.9 - 0.0	EL
1-4a	South Fork Shenandoah-main stream	88.1 - 78.2	WQ
l-4b	Hawksbill Creek-main stream	6.20 - 0.0	WQ
1-4c	Quail Run-main stream	5.2 - 3.2	WQ
1-5	North Fork Shenandoah- main stream and tributaries excluding segment 1-5a, 1-5h	108.9 – 0.0	EL
1-5a	Stony Creek-main stream	19.9 - 14.9	WQ
1-5b	North Fork Shenandoah-main stream	89.0 - 81.4	WQ
1-6	Shenandoah River-main stream and tributaries excluding segments 1-6a, 1-6b	57.4 - 19.8	EL
1- 6a	Stephens Run-main stream	8.3 - 0.0	WQ
1-6b	Dog Run-main stream	5.2 - 0.0	WQ
1-7	Opequon Creek-main stream and tributaries excluding segments 1-7a, 1-7b	54.9 - 23.6	EL
l-7a	Opequon Creek-main stream	32.3 - 23.6	WQ
1-7b	Abrams Creek-main stream	8.7 - 0.0	WQ

1-8	All Virginia streams upstream of Opequon-Potomac confluence that have headwaters in Frederick County	--	EL
1-9	All Virginia streams upstream of Opequon-Potomac confluence that have headwaters in Highland County	--	EL

* R.M. = River Mile, measured from the river mouth

TABLE B4 - SHENANDOAH RIVER SUB-BASIN - RECOMMENDED PLAN FOR SELECTED INDUSTRIAL WASTEWATER TREATMENT FACILITIES

FACILITY NUMBER	NAME[1]	INDUSTRIAL CATEGORY	RECEIVING STREAM CLASSIFICATION	RECOMMENDED WASTELOAD ALLOCATION[2]			COMPLIANCE SCHEDULE
				BOD_5	TKN	NH_3 - N	
1	Wampler	Food Processing	War Branch WQ (1-1a)	84[3]	-	-	None
6	Wayn-Tex	Plastic and Synthetic Materials Mfg.*	South River WQ (I-3a)	44[5]	-	-	None
7	DuPont	Plastic and Synthetic Materials Mfg.*	South River WQ (I-3a)	600	-	50	None
8	Crompton-Shenandoah	Textile Mills*	South River WQ (1-3a)	60	173[4]	88	None
10	General Electric	Electroplating*	South River WQ (1-3a)	BPT Effluent Limits			None
12	Merck	Miscellaneous Chemicals (Pharmaceutical)*	S. F. Shenandoah River WQ (1-4a)	3454	2846	1423	Consent Order
17	VOTAN	Leather, Tanning and Finishing*	Hawksbill Creek WQ (I-4b)	240	75	-	None
21	National Fruit	Food Processing	N. F. Shenandoah River WQ (1-5b)	[6]	[6]	[6]	None
22	Rockingham Poultry	Food Processing	N. F. Shenandoah River WQ (1-5b)	[6]	[6]	[6]	None
23	Shen-Valley Meat Packers	Food Processing	N. F. Shenandoah River WQ (1-5b)	[6]	[6]	[6]	None

35	O'Sullivan	Rubber Processing* Machinery and Mechanical Products Manufacturing	Abrams Creek WQ (I-7b)	BPT Effluent Limits	None

TABLE B4 - NOTES: SHENANDOAH RIVER SUB-BASIN - RECOMMENDED PLAN SELECTED INDUSTRIAL WASTEWATER TREATMENT FACILITIES

(1) An * identifies those industrial categories that are included in EPA's primary industry classification for which potential priority toxic pollutants have been identified.

(2) Allocation (lb/d) based upon 7Q10 stream flow. Tiered permits may allow greater wasteloads during times of higher flow. BPT = Best Practicable Technology.

(3) A summer 1979 stream survey has demonstrated instream D.O. violations. Therefore, the identified wasteload allocation is to be considered as interim and shall be subject to further analysis.

(4) The NPDES permit does not specify TKN but does specify organic-N of 85 lb/d. TKN is the sum of NH -N and organic -N.

(5) This allocation is based upon a flow of 0.847 MGD.

(6) The total assimilative capacity for segment WQ (1-5b) will be developed from an intensive stream survey program and development of an appropriate calibrated and verified model. Wasteload allocations for National Fruit, Rockingham Poultry and Shen-Valley will be determined after the development of the calibrated and verified model and the determination of the segment's assimilative capacity.

TABLE B5 - SHENANDOAH RIVER SUB-BASIN - RECOMMENDED PLAN FOR SELECTED MUNICIPAL WASTEWATER TREATMENT FACILITIES

FACILITY NUMBER	NAME	RECOMMENDED RECEIVING STREAM	FACILITY			WASTELOAD ALLOCATION(3) lb/d BOD_5	INSTITUTIONAL ARRANGEMENT	COMPLIANCE(4) SCHEDULE
			RECOMMENDED ACTION	SIZE(1)	TREATMENT(2) LEVEL			
2	Harrisonburg Rockingham Reg. Sewer Auth.	North River WQ (1-1)	Correct I/I	12.0(5)	AST	2,0002(6)	Harrisonburg-Rockingham Regional Sewer Authority	None

3	Verona	Middle River WQ (1-2a)	Construct new facility, abandon old plant, correct I/I	0.8	Secondary	Secondary Limits	Augusta County Service Authority	July 1, 1983
4	Staunton	Middle River WQ (1-2a)	Upgrade, provide outfall to Middle River, correct I/I	4.5	Secondary	Secondary Limits	City of Staunton	July 1, 1983
5	Fishersville	Christians Creek EL (1-2)	No further action recommended	2.0	Secondary	Secondary Limits	Augusta County Service Authority	None
9	Waynesboro	South River WQ (1-3a)	Upgrade, correct I/I	4.0	AWT with nitrification	250[(5)]	City of Waynesboro	July 1, 1983
11	Grottoes	South River EL (1-3)	Construct new facility	0.225	Secondary	Secondary Limits	Town of Grottoes	No existing facility
13	Elkton	S.F. Shenandoah River WQ (1-4a)	Construct new facility, abandon old plant	0.4	Secondary	Secondary Limits	Town of Elkton	July 1, 1983
14	Massanutten Public Service Corporation	Quail Run WQ (1-4c)	No further action recommended	1.0	AWT	84.0[(8)]	Private	None
15	Shenandoah	S.F. Shenandoah River EL (1-4)	Upgrade, expand, correct I/I	0.35	Secondary	Secondary limits	Town of Shenandoah	No existing facility
16	Stanley	S.F. Shenandoah River EL (1-4)	Construct new facility	0.3	Secondary	Secondary limits	Town of Stanley	No existing facility
18	Luray	Hawksbill Creek WQ (1-4b)	Construct new facility, abandon old plant, correct I/I	0.8	Secondary	Secondary Limits	Town of Luray	July 1, 1983

19	Front Royal	Shenandoah River EL (1-6)	Construct new facility, abandon old plant, correct I/I	2.0	Secondary	Secondary Limits	Town of Front Royal	July 1, 1983
20	Broadway	N.F. Shenandoah River WQ (1-5b)	Upgrade, expand, investigate I/I	(6)	(6)	(6)	Town of Broadway	July 1, 1983
24	Timberville	N.F. Shenandoah River WQ (1-5b)	Upgrade, expand, investigate I/I	(6)	(6)	(6)	Town of Timberville	July 1, 1983
25	New Market	N.F. Shenandoah River EL (1-5)	Upgrade, investigate I/I	0.2	Secondary	Secondary Limits	Town of New Market	July 1, 1983
26	Mount Jackson	N.F. Shenandoah River EL (1-5)	Upgrade, expand, correct I/I	.0.2	Secondary	Secondary Limits	Town of Mount Jackson	July 1, 1983
27	Edinburg	N.F. Shenandoah River EL (1-5)	Upgrade, expand, investigate I/I	0.15	Secondary AST	Secondary Limits 65	Town of Edinburg Public	July 1, 1983 None
28	Stony Creek Sanitary District	River EL (1-5) Stony Creek WQ (1-5a)	No further action required	0.6	AST	65	Public	
29	Woodstock	N.F. Shenandoah River EL (1-5)		0.5	Secondary	Secondary Limits	Town of Woodstock	July 1, 1983
30	Toms Brook-Mauertown	Toms Brook EL (1-5)	Construct new facility	0.189	Secondary	Secondary Limits	Toms Brook	No existing facility
31	Strasburg	N.F. Shenandoah River EL (1-5)	Upgrade, expand, correct I/I	0.8	Secondary	Secondary Limits	Town of Strasburg	July 1, 1983
32	Middletown	Meadow Brook EL (1-5)	Upgrade, expand	0.2	Secondary	Secondary	Town of Middletown	July 1, 1983
33	Stephens City Stephens Run	Stephens Run EL (1-6a)	Upgrade, expand	0.54	AST	72	Frederick-Winchester Service Authority	July 1, 1983

34	Berryville	Shenandoah River EL (1-6)	Upgrade, provide outfall to Shenandoah River, investigate I/I	0.41	Secondary	Secondary Limits	Town of Berryville	July 1, 1983
36	Frederick-Winchester Regional	Opequon Creek WQ (1-7a)	Construct new facility, abandon county and city plans, correct I/I	6.0	AWT with nitrification	456[7]	Frederick-Winchester Service Authority	July 1, 1983
37	Monterey	West Strait Creek EL (1-9)	Upgrade, correct I/I	0.075	Secondary	Secondary Limits	Town of Monterey	July 1, 1983

TABLE B5 - NOTES: SHENANDOAH RIVER SUB-BASIN - RECOMMENDED PLAN FOR SELECTED MUNICIPAL WASTEWATER TREATMENT FACILITIES

(1) Year 2000 design flow (MGD) unless otherwise noted.

(2) Secondary treatment: 24-30 mg/l BOD_5, advanced secondary treatment (AST): 11-23 mg/l BOD_5, advanced wastewater treatment (AWT): <10 mg/l BOD_5. A range is given to recognize that various waste treatment processes have different treatment efficiencies.

(3) Recommended wasteload allocation calculated using mathematical modeling based upon 7Q10 stream flows. Tiered permits may allow greater wasteloads during periods of higher stream flows. Allocations other than BOD_5 are noted by footnote.

(4) The July 1, 1983, data is a statutory deadline required by P.L. 92-500, as amended by P.L. 92-217. The timing of construction grant funding may result in some localities to miss this deadline.

(5) Year 2008 design.

(6) This BOD loading is based on a 7QI0 flow rate of 26.8 cfs at the HRRSA discharge.

(7) NH_3-N = 50 lb/d.

(8) This allocation is based on a TKN loading no greater than 84 lb/day.

9 VAC 25-720-60. James River Basin.

A. Total maximum daily load (TMDLs).

TMDL #	Stream Name	TMDL Title	City/ County	WBID	Pollutant	WLA	Units
1.	Pheasanty Run	Benthic TMDL Reports for Six Impaired Stream Segments in the Potomac-Shenandoah and James River Basins	Bath	I14R	Organic Solids	1,231.00	LB/YR
2.	Wallace Mill Stream	Benthic TMDL Reports for Six Impaired Stream Segments in the Potomac-Shenandoah and James River Basins	Augusta	I32R	Organic Solids	3,451.00	LB/YR
3.	Montebello Sp. Branch	Benthic TMDL Reports for Six Impaired Stream Segments in the Potomac-Shenandoah and James River Basins	Nelson	H09R	Organic Solids	37.00	LB/YR

B. Stream segment classifications, effluent limitations including water quality based effluent limitations, and waste load allocations.

TABLE B1 - UPPER JAMES RIVER BASIN RECOMMENDED SEGMENT CLASSIFICATION

Stream Name	Segment No.	Mile to Mile	Classification	Comments
Maury River	2-4	80.3-0.0	E.L.	Main & tributaries
James River	2-5	271.5-266.0	W.Q.	Main only
James River	2-6	266.0-115.0	E.L.	Main & tributaries except Tye & Rivanna River
Tye River	2-7	41.7-0.0	E.L.	Main & tributaries except Rutledge Creek

Rutledge Creek	2-8	3.0-0.0	W.Q.	Main only
Piney River	2-9	20.6-0.0	E.L.	Main & tributaries
Rivanna River	2-10	20.0-0.0	E.L.	Main & tributaries
Rivanna River	2-11	38.1-20.0	W.Q.	Main only
Rivanna River	2-12	76.7-38.1	E.L.	Main & tributaries
S.F. Rivanna River	2-13	12.2-0.0	E.L.	Main & tributaries
Mechum River	2-14	23.1-0.0	E.L.	Main & tributaries
N.F. Rivanna River	2-15	17.0-0.0	E.L.	Main & tributaries except Standardsville Run
Standardsville Run	2-16	1.2-0.0	W.Q.	Main only
Appomattox River	2-17	156.2-27.7	E.L.	Main & tributaries except Buffalo Creek, Courthouse Branch, and Deep Creek
Buffalo Creek	2-18	20.9-0.0	E.L.	Main & tributaries except Unnamed Tributary @ R.M. 9.3
Unnamed Tributary of Buffalo Creek @ R.M. 9.3	2-19	1.3-0.0	W.Q.	Main only
Courthouse Branch	2-20	0.6-0.0	W.Q.	Main only
Deep Creek	2-21	29.5-0.0	E.L.	Main & tributaries except Unnamed Tributary @ R.M. 25.0
Unnamed Tributary of Deep Creek @ R.M. 25.0	2-22	2.2-0.0	W.Q.	Main only

TABLE B2 - UPPER JAMES RIVER BASIN LOAD ALLOCATIONS BASED ON EXISTING DISCHARGE POINT[7]

Stream Name	Segment Number	Classification	Mile to Mile	Significant Discharges	Total Assimilative Capacity of Stream BOD_5 lbs/day	Wasteload Allocation BOD_5 lbs/day[2]	Reserve BOD_5 lbs/day[5]
Cedar Creek	2-3	E.L.	1.9-0.0	Natural Bridge, Inc. STP	35.0	28.0	7.0 (20%)
Elk Creek	2-3	E.L.	2.8-0.0	Natural Bridge Camp for Boys STP	7.0	3.3	3.7 (53%)

Little Calfpasture River	2-4	E.L.	10.9-4.0	Craigsville	12.0	9.6	2.4 (20%)
Cabin River	2-4	E.L.	1.7-0.0	Millboro	Self -sustaining	None	None
Maury River	2-4	E.L.	19.6-12.2	Lexington STP	380.0	380.0	None
Maury River	2-4	E.L.	12.2-1.2	Georgia Bonded Fibers	760.0	102.0[3]	238.0 (31%)
				Buena Vista STP		420.0	
Maury River	2-4	E.L.	1.2-0.0	Lees Carpets	790.0	425.0[3]	290.0 (37%)
				Glasgow STP		75.0	
James River	2-5	W.Q.	271.5-266.0	Owens-Illinois	4,640.0	4,640.0[3]	None
James River	2-6	E.L.	257.5-231.0	Lynchburg STP	10,100.0	8,000.0	2,060.0 (20%)
				Babcock & Wilcox- NNFD		40.0[3]	
James River	2-6	E.L.	231.0-202.0	Virginia Fibre	3,500.0	3,500.0	None
Rutledge Creek	2-8	W.Q.	3.0-0.0	Amherst STP	46.0	37.0	9.0 (20%)
Town Creek	2-7	E.L.	2.1-0.0	Lovington STP	26.0	21.0	5.0 (20%)
Ivy Creek	2-6	E.L.	0.1-0.0	Schuyler	13.8	11.0	2.8 (20%)
James River	2-6	E.L.	186.0-179.0	Uniroyal, Inc.	1,400.0	19.3[6]	1,336.0 (95%)
				Scottsville STP		45.0	
North Creek	2-6	E.L.	3.1-0.0	Fork Union STP	31.0	25.0	6.0 (20%)
Howells Branch and Licking Hole Creek	2-14	E.L.	0.7-0.0	Morton Frozen Foods	20.0	20.03	None
Standardsville Run	2-16	W.Q.	1.2-0.0	Standardsville STP	17.9	14.3	3.6 (20%)
Rivanna River	2-11	W.Q.	23.5-20.0	Lake Monticello STP	480.0	380.0	100.0 (20%)
Rivanna River	2-10	E.L.	15.0-0.0	Palmyra	250.0	4.0	158.0 (63%)
				Schwarzenbach Huber		88.0[3]	

Unnamed Tributary of Whispering Creek	2-6	E.L.	1.2-00	Dillwyn STP	38.0	30.0	8.0 (21%)
South Fork Appomattox River	2-17	E.L.	5.5-0.0	Appomattox Lagoon	18.8	15.0	3.8 (20%)
Unnamed Tributary of Buffalo Creek	2-19	W.Q.	1.3-0.0	Hampden-Sydney Coll. STP	10.0	8.0	2.0 (20%)
Appomattox River	2-17	E.L.	106.1-88.0	Farmville STP	280.0	220.0	60.0 (21%)
Unnamed Tributary of Little Guinea Creek	2-17	E.L.	2.5-1.3	Cumberland H.S. Lagoon	0.6	0.5	0.1 (20%)
Unnamed Tributary of Tear Wallet Creek	2-17	E.L.	0.68-0.0	Cumberland Courthouse	8.8	7.0	1.8 (20%)
Courthouse Branch	2-22	W.Q.	2.2-0.0	Amelia STP	21.0	17.0	4.0 (20%)
Unnamed Tributary of Deep Creek	2-22	W.Q.	2.2-0.0	Crewe STP	50.3[11,12]	50.1[11,12]	0.2 (0.4%)[11,12,13]

[1] Recommended classification.

[2] Based on 2020 loads or stream assimilative capacity less 20%.

[3] Load allocation based on published NPDES permits.

[4] This assimilative capacity is based upon an ammonia loading no greater than 125.1 lbs/day.

[5] Percentages refer to reserve as percent of total assimilative capacity. Minimum reserve for future growth and modeling accuracy is 20% unless otherwise noted.

[6] No NPDES Permits published (BPT not established) allocation base on maximum value monitored.

[7] This table is for the existing discharge point. The recommended plan may involve relocation or elimination of stream discharge.

[8] Assimilative capacity will be determined upon completion of the ongoing study by Hydroscience, Inc.

[9] Discharges into Karnes Creek, a tributary to the Jackson River.

[10] Discharges into Wilson Creek, near its confluence with Jackson River.

[11] Five-day Carbonaceous Biological Oxygen Demand ($cBOD_5$).

[12] Revision supersedes all subsequent Crewe STP stream capacity, allocation, and reserve references.

[13] 0.4 percent reserve: determined by SWCB Piedmont Regional Office.

Source: Wiley & Wilson, Inc.

TABLE B3 - UPPER JAMES RIVER BASIN ADDITIONAL LOAD ALLOCATIONS BASED ON RECOMMENDED DISCHARGE POINT

Stream Name	Segment Number	Classification[1]	Mile to Mile	Significant Discharges	Total Assimilative Capacity of Stream BOD_5 lbs/day	Wasteload[2] Allocation BOD_5 lbs/day	Reserve[4] BOD_5 lbs/day[5]
Mill Creek	2-4	E.L.	5.5-0.0	Millboro	30.0	7.3	22.7 (76%)
Calfpasture River	2-4	E.L.	4.9-0.0	Goshen	65.0	12.0	53.0 (82%)
Maury River	2-4	E.L.	1.2-0.0	Lees Carpet	790.0	425.0[3]	235.0 (30%)
				Glasgow Regional S.T.P.		130.0	
Buffalo River	2-7	E.L.	9.6-0.0	Amherst S.T.P.	150.0	120.0	30.0 (20%)
Rockfish River	2-6	E.L.	9.5-0.0	Schuyler S.T.P.	110.0	25.0	85.0 (77%)

Standardsville Run		E.L.		Standardsville	Land Application Recommended		
South Fork Appomattox River		E.L.		Appomattox Lagoon	Connect to Recommended Facility in Roanoke River Basin		
Buffalo Creek	2-17	E.L.	9.3-7.7	Hampden-Sydney College	46.0	23.0	23.0 (50%)
Unnamed trib. of Tear Wallet Creek		E.L.		Cumberland Courthouse	Land Application Recommended		
Courthouse Branch		E.L.		Amelia	Land Application Recommended		
Deep Creek	2-17	E.L.	25.0-12.8	Crewe S.T.P.	69.0	55.0	14.0 (20%)

[1]Recommended classification.

[2]Based on 2020 loads or stream assimilative capacity less 20%.

[3]Load allocation based on published NPDES permit.

[4]Percentages refer to reserve as percent of total assimilative capacity. Minimum reserve for future growth and modeling accuracy is 20% unless otherwise noted.

[5]Assimilative capacity will be determined upon completion of the ongoing study by Hydroscience, Inc.

Source: Wiley & Wilson, Inc.

TABLE B4 - SEGMENT CLASSIFICATION UPPER JAMES-JACKSON RIVER SUBAREA

Stream Name	Segment Number	Mile to Mile	Stream Classification	Comments
Back Creek	2-1	16.06-8.46	W.Q.	Main Only
Jackson River	2-1	95.70-24.90	E.L.	Main and Tributaries
Jackson River	2-2	24.90-0.00	W.Q.	Main Only
Jackson River	2-2	24.90-0.00	E.L.	Tributaries Only
James River	2-3	349.50-308.50	E.L.	Main and Tributaries
James River	2-3	308.50-279.41	E.L.	Main and Tributaries

TABLE B5 - UPPER JAMES-JACKSON RIVER SUBAREA WASTELOAD ALLOCATIONS BASED ON EXISTING DISCHARGE POINT[1]

MAP LOCATION	STREAM NAME	SEGMENT NUMBER	SEGMENT CLASSIFICATION STANDARDS	MILE to[2] MILE	DISCHARGER	VPDES PERMIT NUMBER	VPDES PERMIT LIMITS BOD_5 kg/day	303(e)[3] WASTELOAD ALLOCATION BOD_5 kg/day
1	Jackson River	2-1	E.L.	93.05-	Virginia Trout	VA0071722	N/A	Secondary
B	Warm Springs Run	2-1	E.L.	3.62-0.00	Warm Springs STP	VA0028233	9.10	Secondary
3	Back Creek	2-1	W.Q.	16.06-8.46	VEPCO	VA0053317	11.50	11.50
C	X-trib to Jackson River	2-1	E.L.	0.40-0.0	Bacova	VA0024091	9.10	Secondary
D	Hot Springs Run	2-1	E.L.	5.30-0.00	Hot Springs Reg. STP	VA0066303	51.10	Secondary
E	X-trib to Cascades Creek	2-1	E.L.	3.00-0.00	Ashwood-Healing Springs STP	VA0023726	11.30	Secondary
F	Jackson River	2-1	E.L.	50.36-	U.S. Forest Service Bolar Mountain	VA0032123	1.98	Secondary
G	Jackson River	2-1	E.L.	43.55	U.S. Army COE Morris Hill Complex	VA0032115	1.70	Secondary
H	Jackson River	2-1	E.L.	29.84-	Alleghany County Clearwater Park	VA0027955	5.70	Secondary

4	Jackson River	2-1	E.L.	25.99	Covington City Water Treatment Plant	VA0058491	N/A	Secondary
5	Jackson River	2-2	W.Q.	24.64-19.03	Westvaco	VA0003646	4,195.00	4,195.00[4]
6					Covington City[5] Asphalt Plant	VA0054411	N/A	N/A
7					Hercules, Inc[6]	VA0003450	94.00	94.00
J	Jackson River	2-2	W.Q.	19.03-10.5	Covington STP	VA0025542	341.00	341.00
K	Jackson River			10.5-0.0	Low Moor STP[7]	VA0027979	22.70	22.70
M					D.S. Lancaster CC[8]	VA0028509	3.60	3.60
L					Selma STP[9]	VA0028002	59.00	59.00
10					The Chessie System[10]	VA0003344	N/A	N/A
N					Clifton Forge STP[11]	VA0002984	227.00	227.00
11					Lydall[12]	VA0002984	6.00	6.00
P					Iron Gate STP[13]	VA0020541	60.00	60.00
8	Paint Bank Branch	2-2	E.L.	1.52	VDGIF Paint Bank Hatchery	VA0098432	N/A	Secondary
I	Jerrys Run	2-2	E.L.	6.72-	VDOT 1-64 Rest Area	VA0023159	0.54	Secondary
AA	East Branch (Sulfer Spring)	2-2	E.L.	2.16	Norman F. Nicholas	VA0078403	0.05	Secondary
BB	East Branch (Sulfer Spring)	2-2	E.L.	1.91-	Daryl C. Clark	VA0067890	0.068	Secondary

9	Smith Creek	2-2	E.L.	3.44-	Clifton Forge Water Treatment Plant	VA0006076	N/A	Secondary
O	Wilson Creek	2-2	E.L.	0.20-0.0	Cliftondale[14] Park STP	VA0027987	24.00	Secondary
2	Pheasanty Run	2-3	E.L.	0.01-	Coursey Springs	VA0006491	434.90	Secondary
Q	Grannys Creek	2-3	E.L	1.20-	Craig Spring Conference Grounds	VA0027952	3.40	Secondary
CC	X-trib to Big Creek	2-3	E.L	1.10-	Homer Kelly Residence	VA0074926	0.05	Secondary
12	Mill Creek	2-3	E.L	0.16-	Columbia Gas Transmission Corp.	VA0004839	N/A	Secondary
R	John Creek	2-3	E.L	0.20-	New Castle STP(old)	VA0024139	21.00	Secondary
S	Craig Creek	2-3	E.L	48.45-36.0	New Castle STP (new)	VA0064599	19.90	Secondary
T	Craig Creek	2-3	E.L	46.98-	Craig County Schools McCleary E.S.	VA0027758	0.57	Secondary
DD	Eagle Rock Creek	2-3	E.L.	0.08-	Eagle Rock STP[15] (Proposed)	VA0076350	2.30	Secondary
U	X-trib to Catawba Creek	2-3	E.L.	0.16	VDMH & R Catawba Hospital	VA0029475	13.60	Secondary
14	Catawba Creek	2-3	E.L.	23.84	Tarmac-Lonestar	VA0078393	0.80	Secondary

FF	Borden Creek	2-3	E.L	2.00-	Shenandoah Baptist Church Camp	VA0075451	0.88	Secondary
EE	X-trib to Borden Creek	2-3	E.L	0.36	David B. Pope	VA0076031	0.07	Secondary
V	X-trib to Catawba Creek	2-3	E.L	3.21-	U.S. FHA Flatwood Acres	VA0068233	0.03	Secondary
W	Catawba Creek	2-3	E.L	11.54-	Fincastle STP	VA0068233	8.50	Secondary
X	Looney Mill Creek	2-3	E.L	1.83-	VDOT I-81 Rest Area	VA0023141	0.91	Secondary
Y	X-trib to Stoney	2-3	E.L	0.57	VDOC Field Unit No. 25 Battle Creek	VA0023523	1.10	Secondary
Z	James River	2-3	E.L.	308.5-286.0	Buchanan STP	VA0022225	27.00	Secondary

TABLE B5 - NOTES:

N/A Currently No BOD_5 limits or wasteload have been imposed by the VPDES permit. Should BOD_5 limits (wasteload) be imposed a WQMP amendment would be required for water quality limited segments only.

[1] Secondary treatment levels are required in effluent limiting (E.L.) segments. In water quality limiting (W.Q.) segments quantities listed represent wasteload allocations.

[2] Ending river miles have not been determined for some Effluent Limited segments.

[3] These allocations represent current and original (1977 WQMP) modeling. Future revisions may be necessary based on Virginia State Water Control Board modeling.

[4] The total assimilative capacity at critical stream flow for this portion of Segment 2-2 has been modeled and verified by Hydroscience, Inc. (March 1977) to be 4,914 kg/day BOD_5.

[5] The discharge is to an unnamed tributary to the Jackson River at Jackson River mile 22.93.

[6] The discharge is at Jackson River mile 19.22.

[7] The discharge is to the mouth of Karnes Creek, a tributary to the Jackson River at Jackson River mile 5.44.

[8] The discharge is at Jackson River mile 6.67.

[9] The discharge is at Jackson River mile 5.14.

[10] The discharge is at Jackson River mile 4.72.

[11] The discharge is at Jackson River mile 3.46.

[12] The discharge is at Jackson River mile 1.17

[13] The discharge is at Jackson River mile 0.76

[14] The discharge is to the mouth of Wilson Creek, a tributary to the Jackson River at Jackson River mile 2.44.

[15] The discharge is to the mouth of Eagle Rock Creek, a tributary to the Jackson River at Jackson River mile 330.35.

TABLE B6 - RICHMOND CRATER INTERIM WATER QUALITY MANAGEMENT PLAN STREAM CLASSIFICATIONS - JAMES RIVER BASIN

SEGMENT	SEGMENT NUMBER	MILE TO MILE	CLASSIFICATION
USGS HUC02080206 James River	2-19	115.0-60.5	W.Q.
USGS HUC02080207 Appomattox	2-23	30.1-0.0	W.Q.

TABLE B6- * Note: A new stream segment classification for the Upper James Basin was adopted in 1981. The SWCB will renumber or realign these segments in the future to reflect these changes. This Plan covers only a portion of these segments.

TABLE B7 - RICHMOND CRATER INTERIM WATER QUALITY MANAGEMENT PLAN– CURRENT PERMITTED WASTE LOADS (March 1988)

	SUMMER (June-October)						WINTER (November-May)					
	FLOW (mgd)	BOD_5		NH_3-N[1]		DO[2] (mg/l)	FLOW (mgd)	BOD_5		NH_3-N[1]		DO[2] (mg/l)
		(lbs/d)	(mg/l)	(lbs/d)	(mg/l)			(lbs/d)	(mg/l)	(lbs/d)	(mg/l)	
City of Richmond STP[3]	45.00	3002	8.0	-	-	-	45.00	5367		-	-	-
E.I. DuPont-Spruance	8.68	936	-	-	-	-	8.68	936	-	-	-	-
Falling Creek STP	9.00	1202	16.0	-	-	5.9	9.00	2253	30.0	-	-	5.9
Proctor's Creek STP	6.40	1601	30.0	-	-	5.9	11.80	2952	30.0	-	-	5.9
Reynolds Metals Company	0.39	138	-	7	-	-	0.39	138	-	7	-	-
Henrico STP	30.00	3005	12.0	-	-	5.9	30.00	7260	29.0	-	-	5.9
American Tobacco Company	1.94	715	-	-	-	-	1.94	716	-	-	-	-
ICI Americas, Inc.	0.20	152	-	-	-	-	0.20	152	-	-	-	-
Phillip Morris- Park 500	1.50	559	-	-	-	-	1.50	557	-	-	-	-
Allied (Chesterfield)	51.00	1207	-	-	-	-	51.00	1207		-	-	-
Allied (Hopewell)	150.00	2500	-	-	-	-	150.00	2500	-	-	-	-
Hopewell Regional WTF	34.08	12507	44.0	-	-	4.8	34.08	12507	44.0	-	-	4.8
Petersburg STP	15.00	2804	22.4	-	-	5.0	15.00	2804	22.4	-	-	5.0
TOTAL	353.19	30328					358.59	39349				

[1] NH_3-N values represent ammonia as nitrogen.

[2] Dissolved oxygen limits represent average minimum allowable levels.

[3] Richmond STP's BOD_5 is permitted as $CBOD_5$

TABLE B7 - WASTE LOAD ALLOCATIONS FOR THE YEAR 1990

	SUMMER (June-October)						WINTER (November-May)				
	FLOW (mgd)	$CBOD_5$		NH_3-N[1,3]		DO[2] (mg/l)	$CBOD_5$		NH_3-N[1]		DO[2] (mg/l)
		(lbs/d)	(mg/l)	(lbs/d)	(mg/l)		(lbs/d)	(mg/l)	(lbs/d)	(mg/l)	
City of Richmond STP	45.00	3002	8.0	2403	6.4	5.6	5367	14.3	5707	15.2	5.6
E.I. DuPont-Spruance	11.05	948		590		4.4	948		756		2.9
Falling Creek STP	10.10	1348	16.0	539	6.4	5.9	2023	24.0	1281	15.2	5.9
Proctor's Creek STP	12.00	1602	16.0	961	9.6	5.9	2403	24.0	1402	14.0	5.9
Reynolds Metals Co.	0.49	172		8		6.5	172		8		6.5
Henrico STP	30.00	3002	12.0	2403	9.6	5.6	4756	19.0	3504	44.0	5.6
American Tobacco Co.	2.70	715		113		5.8	715		113		5.8
ICI Americas, Inc.	0.20	167		8		5.8	167		8		3.1
Phillip Morris- Park 500	2.20	819		92		4.6	819		92		4.6
Allied (Chesterfield)	53.00	1255		442		5.7	1255		442		5.7
Allied (Hopewell)	165.00	2750		10326		6.1	2750		10326		6.1
Hopewell Regional WTF	34.07	12502	44.0	12091	36.2	4.8	12502	44.0	10291	36.2	4.8
Petersburg STP	15.00	2802	22.4	801	6.4	5.0	2802	22.4	2028	16.2	5.0
TOTAL	380.81	31084		28978			36679	35958			

[1] NH_3-N values represent ammonia as nitrogen.

[2] Dissolved oxygen limits represent average minimum allowable levels.

[3] Allied (Hopewell) allocation may be redistributed to the Hopewell Regional WTF by VPDES permit.

TABLE B7- WASTE LOAD ALLOCATION FOR THE YEAR 2000

	SUMMER (June-October)						WINTER (November-May)				
	FLOW (mgd)	$CBOD_5$		NH_3-N[1,3]		DO[2] (mg/l)	$CBOD_5$		NH_3-N[1]		DO[2] (mg/l)
		(lbs/d)	(mg/l)	(lbs/d)	(mg/l)		(lbs/d)	(mg/l)	(lbs/d)	(mg/l)	
City of Richmond STP	45.08	3002	8.0	2403	6.4	5.6	5367	14.3		15.2	5.6

E.I. DuPont-Spruance	196.99	948		590		4.4		948		756		2.9
Falling Creek STP	10.10	1348	16.0	539	6.4	5.9		2023	24.0	1281	15.2	5.9
Proctor's Creek STP	16.80	1602	11.4	961	6.9	5.9		2403	17.1	1402	10.0	5.9
Reynolds Metals Co.	0.78	172		13		6.5		172		13		6.5
Henrico STP	32.80	3002	11.0	2403	8.8	5.6		4756	17.4	3504	12.8	5.6
American Tobacco Co.	3.00	715		113		5.8		715		113		5.8
ICI Americas, Inc.	0.20	167		8		5.8		167		8		3.1
Phillip Morris- Park 500	2.90	819		92		4.6		819		92		4.6
Allied (Chesterfield)	56.00	1255		442		5.7		1255		442		5.7
Allied (Hopewell)	170.00	2750		10326		6.1		2750		10326		6.1
Hopewell Regional WTF	36.78	12502	40.7	12091	33.5	4.8		12502	40.7	10291	33.5	4.8
Petersburg STP	15.00	2802	22.4	801	6.4	5.0		2802	22.4	2028	16.2	5.0
TOTAL	406.43	31084		28982				36679		35963		

[1] NH_3-N values represent ammonia as nitrogen.

[2] Dissolved oxygen limits represent average minimum allowable levels.

[3] Allied (Hopewell) allocation may be redistributed to the Hopewell Regional WTF by VPDES permit.

TABLE B7- WASTE LOAD ALLOCATIONS FOR THE YEAR 2010

	SUMMER (June-October)						WINTER (November-May)				
	FLOW	$CBOD_5$		NH_3-N[1,3]		DO[2]	$CBOD_5$		NH_3-N[1]		DO[2]
	(mgd)	(lbs/d)	(mg/l)	(lbs/d)	(mg/l)	(mg/l)	(lbs/d)	(mg/l)	(lbs/d)	(mg/l)	(mg/l)
City of Richmond STP	45.86	3002	7.8	2403	6.3	5.6	5367	14.0		14.9	5.6
E.I. DuPont-Spruance	16.99	948		590		4.4	948		756		2.9
Falling Creek STP	10.10	1348	16.0	539	6.4	5.9	2023	24.0	1281	15.2	5.9
Proctor's Creek STP	24.00	1602	8.0	961	4.8	5.9	2403	12.0	1402	7.0	5.9
Reynolds Metals Co.	0.78	172		13		6.5	172		13		6.5
Henrico STP	38.07	3002	9.5	2403	7.6	5.6	4756	15.0	3504	11.0	5.6
American Tobacco Co.	3.00	715		113		5.8	715		113		5.8

ICI Americas, Inc.	0.20	167		8		5.8		167		8		3.1
Phillip Morris- Park 500	2.90	819		92		4.6		819		92		4.6
Allied (Chesterfield)	56.00	1255		442		5.7		1255		442		5.7
Allied (Hopewell)	180.00	2750		10326		6.1		2750		10326		6.1
Hopewell Regional WTF	39.61	12502	37.8	10291	31.1	4.8		12502	37.8	10291	31.1	4.8
Petersburg STP	15.00	2802	22.4	801	6.4	5.0		2802	22.4	2028	16.2	5.0
TOTAL	432.1	31084		28982				36679		35963		

[1] NH_3-N values represent ammonia as nitrogen.

[2] Dissolved oxygen limits represent average minimum allowable levels.

[3] Allied (Hopewell) allocation may be redistributed to the Hopewell Regional WTF by VPDES permit.

9 VAC 25-720-90. Tennessee-Big Sandy River Basin.

A. Total maximum Daily Load (TMDLs).

TMDL #	Stream Name	TMDL Title	City/County	WBID	Pollutant	WLA	Units
1.	Guest River	Guest River Total Maximum Load Report	Wise	P11R	Sediment	317.52	LB/YR
2.	Cedar Creek	Total Maximum Daily Load (TMDL) Development for Cedar Creek, Hall/Byers Creek and Hutton Creek	Washington	O05R	Sediment	1,789.93	LB/YR
3.	Hall/Byers Creek	Total Maximum Daily Load (TMDL) Development for Cedar Creek, Hall/Byers Creek and Hutton Creek	Washington	O05R	Sediment	57,533.49	LB/YR
4.	Hutton Creek	Total Maximum Daily Load (TMDL) Development for Cedar	Washington	O05R	Sediment	91.32	LB/YR

		Creek, Hall/Byers Creek and Hutton Creek					

B. Stream segment classifications, effluent limitations including water quality based effluent limitations, and waste load allocations.

TABLE B1 - SEWERAGE SERVICE AREAS

			NPDES LIMITS[3]			
Map[1] No.	Locality	Receiving Stream Classification[2]	FLOW (mgd)	BOD_5 (1lbs/day)	SS (lbs/day)	Status of Applicable[4] Section 201 Programs (March 1977)
14T	Abingdon	EL	0.6	840	840	Step III at EPA for award.
14B	Amonate	EL	Permit to be issued in future			Not on priority list.
4T	Appalachia	EL	0.3	75	75	To be studied with Big Stone Gap
5T	Big Stone Gap	EL	0.8	240	240	Recommended for FY 77 Step 1.
13B	Bishop	EL	Permit to be issued in future			Not on priority list.
	Bristol	EL	Served by plant in Tennessee			Health hazard area to be served by collection system funded in FY 76. Extension of existing interceptor into Bearer Creek & Sinking Creek area to be funded by Region IV EPA and Tennessee. Also infiltration/inflow study to be funded in FY 77.
23T	Chilhowie	EL	0.265	68.5	79.6	Proposed Step I study with Marion.
	Cleveland	WQ	0.05	12.5	12.5	Step III grant awarded by EPA.
	Clinchport	WQ	Not to exceed present discharge			Town and Country Authority has not yet applied for Step I from FY 76 funds.
2B	Clintwood	WQ	0.235	*70.5/117.5	*70.5/ 117.5	On FY 77 list for Step I.
11T	Coeburn	WQ	0.4	160	160	On FY 77 list for Step I.
18T	Damascus	EL	0.25	62.5	62.5	Final audit and inspection of facility completed.

6T	Duffield	EL	0.075	30	30	Not on priority list.
	Dungannon- Fort Blackmore	WQ	Permit to be issued in future			Not on priority list.
10T	Gate City- Weber City	EL	0.504	*151/252	*151/252	Step I in progress.
3B, 5B	Harmon-Big Rock		1.25	156	312	System is approved by state and submitted to EPA.
6B, 7B	Grundy-Vansant	WQ	Permit to be issued in future			System is approved and submitted to EPA.
9B	Haysi	WQ	Permit to be issued in future			Step I plan is complete. Town disapproved plan. SWCB evaluating alternatives.
8B T	Hurley	WQ	Permit to be issued in future			Step I plan complete and under review by state.
1T	Jonesville	EL	0.15	38	38	Not on priority list.
13T	Lebanon	WQ	0.2	60	60	Step III application at EPA.
25T	Marion	EL	1.7	510	510	Step I recommended for FY 77. Marion is proceeding on infiltration/inflow study under prior approval from EPA.
	Nickelsville	WQ	Permit to be issued in future			Not on priority list.
7T, 8T	Norton	WQ	0.77, 0.22	832,371	640,0184	Step I in process (with Wise).
2T	Pennington Gap	EL	0.315	410	315	Step I recommended for FY 76. Community has not yet completed Step I application.
1 B	Pound	WQ	0.175	44	44	Step III funded by EPA. Facility nearly completed.
19T	Raven-Doran	WQ	0.26	67.2	78	System to remain unchanged.
20T	Richlands	WQ	0.8	845	650	Step I in process. Step II recommended in FY 77.
	Rosedale	WQ	Permit to be issued in future			Not on priority list.
	Rose Hill-Ewing	EL	Permit to be issued in future			Not on priority list.
3T	St. Charles	EL	0.125	25	25	Abandonment proposed. Then to be served by Pennington Gap, subject to recommendations of Facility Plan.
12T	St. Paul	WQ	0.4	100	100	Complete and audited by EPA.
22T	Saltville	EL	0.5	125	125	Complete and audited by EPA.

	Sugar Grove-Teas	EL	Permit to be issued in future			Not on priority list.
15T	Swords Creek-Honaker	EL	0.144	187	144	Step I in FY 76. Step II recommended in FY 77.
24T	Tazewell, Town of	EL	0.70	*210/350	*210/350	Step I recommended in FY 77.
10B, 11B, 12B	Trammel-McClure	WQ	Permit to be issued in future			Not on priority list.
9T	Wise	WQ	0.28	112	112	Step I in progress (with Norton).

[1] Dischargers are shown on Plate 3-B (Map No. with “B” designates Big Sandy) and 3-T (Map No. with “T” designates Tennessee).

[2] Effluent Limiting (EL) or Water Quality (WQ).

[3] For existing sewage treatment facility.

[4] For new sewage treatment facility.

*Seasonal NPDES allowable loading: April to September/October to March.

Source: Thompson & Litton and State Water Control Board.

9 VAC 25-720-130. New River.

A. Total maximum Daily Load (TMDLs).

TMDL #	Stream Name	TMDL Title	City/County	WBID	Pollutant	WLA	Units
1.	Stroubles Creek	Benthic TMDL for Stroubles Creek in Montgomery County, Virginia	Montgomery	N22R	Sediment	233.15	LB/YR

B. Stream segment classifications, effluent limitations including water quality based effluent limitations, and waste load allocations.

TABLE B1- SEWERAGE SERVICE AREAS

Map[1] No.	Locality	Receiving[2] Stream Classification	NPDES Limits[3] Flow (mgd)	BOD_5 (kg/day)	SS (kg/day)	Status of Applicable[4] Section 201 Programs (January 1980)
	Abbs Valley	WQ	Permit not needed at present			Not on priority list
	Austinville	EL	Permit not needed at present			Not on priority list
	Bastian	EL	Permit not needed at present			Continue to use septic tanks for present
1	Blacksburg	EL	6	544.8	544.8	Completed
	Bland	EL	Permit to be issued in future			Not on priority list
29	Bluefield	WQ	3.5	106	106	Near Completion
	Boissevain	WQ	Effluent treated at Pocahontas			Redesign to treat at Pocahontas underway
2	Christiansburg	WQ	2.0	113.5	113.5	Completed
3	Dublin	EL	.22	29.9/49.9	29.9/49.9	To be connected to Pepper's Ferry STP (Radford Cluster) in FY-80
	Elk Creek	EL	Permit not needed at present			Continue to use septic tanks
4	Fairlawn	EL	.26	47	47	To be connected to Pepper's Ferry STP (Radford Cluster)
	Falls Mills	WQ	.144	5.5	5.5	Step I approved; limits for new plant
	Flat Ridge	EL	Permit not needed at present			Not on priority list
*5	Floyd	EL	.1	59.0	45.4	Small community; Step IV
13	Fries	EL	.02	11.8	9.1	Step I approved
14			.16	94.5	72.7	
17	Galax	EL	1.5	170	170	Not on priority list
	Glen Lyn	EL	Permit not needed at present			Not on priority list
15	Hillsville	EL	.2	23	23	Step I to be approved soon
16			.15	17	17	
*18	Independence	EL	.2	22.7	22.7	Step I approved; selected alternative was for one plant
19			.1	11.4	11.4	
	Ivanhoe	EL	Permit not needed at present			Continue to use septic tanks
	Max Meadows	EL	Permit to be issued in future			Not on priority list
	Mechanicsburg	EL	Permit not needed at present			Not on priority list
6	Narrows	EL	0.60	354.0	272.0	Step I at EPA; Step II - FY-80
	Newport	EL	Permit not needed at present			Not on priority list
7	Pearisburg	EL	0.30	177.0	136.0	Step I at EPA; Step II - FY-80; Step III - FY-84
	Pembroke	EL	Permit not needed at present			Not on priority list
*30	Pocahontas	WQ	.15	17	17	Step I grant approved to correct I/I problems
8	Pulaski	EL	2.0	234/303	234	To be connected to Pepper's Ferry STP (Radford Cluster) in FY-80 (Step II)
9	Radford STP	EL	2.5	1475	925	Step II - FY-80
*10	Rich Creek	EL	.12	71	54	Step I at EPA, Step IV - FY-83
31	Riner	EL	.035	4.0	4.0	Completed

	Rocky Gap	EL	Permit not needed at present			Continue to use septic tanks for present
12	Rural Retreat	EL	0.15	37.5	37.5	Step I to be completed in FY-80
	Speedwell	EL	Permit not needed at present			Continue to use individual septic tanks for present
	Troutdale	EL	Permit not needed at present			Continue to use individual septic tanks for present
	Woodlawn	EL	Permit to be issued in future			Not on priority list
11	Wytheville	EL	20	400	200	Sewage treatment plant completed

[1]Discharges are shown on Plate 3.

[2]Effluent Limiting (E.L.) or Water Quality Limiting (WQ).

[3]For existing sewage treatment facility.

[4]For new sewage treatment facility.

*Small communities with combined Step II and III Grants.

TABLE B2- EFFLUENT LIMITS[(1) (4)] NEW RIVER BASIN

Discharge	Receiving Stream	Maximum BOD_5 Loading Limits (kg/day)
Troutdale	Fox Creek	6.1
Independence	Peachbottom Creek	13.5
Fries	New River	50.5
Galax	Chestnut Creek	240.3
Hillsville	Little Reed Island Creek	99.6
Woodlawn	Crooked Creek	69.5
Speedwell	Cripple Creek	17.4
Austinville	New River	19.5
Rural Retreat	South Fork	50.5
Wytheville	Reed Creek	298.3
Max Meadows	Reed Creek	82.4
[(3)]Pulaski	Peak Creek	316.8
Floyd	Dodd Creek	24.1
Riner	Mill Creek	9.8
Blacksburg	New River	583.4
Christiansburg	Crab Creek	359.4
[(3)]Dublin-New River-Fairlawn-Radford-Plum Creek	New River	772.7
Newport	Sinking Creek	2.9
Pembroke	New River	28.4
Bland	Walker Creek	10.3
Mechanicsburg	Walker Creek	3.1
Narrows-Pearisburg	New River	110.8

Bastian	Wolf Creek	10.4
Rocky Gap	Wolf Creek	9.0
Rich Creek	Rich Creek	19.9
Glen Lyn	New River	5.7
Bluefield	Bluestone River	136.4
(2) Abbs Valley	Laurel Fork	11.4
(2) Pocahontas	Laurel Fork	5.5
(2) Boissevain	Laurel Fork	5.9

(1) Other effluent limitations will be determined by Water Quality Standards and/or Best Available Technology requirements.

(2) Secondary treatment will be required until a further verification of the model is made to document the need for treatment beyond secondary.

(3) To join Radford Cluster.

(4) This table supersedes Table 152, page 199, Thompson & Litton, Inc., New River Basin Comprehensive Water Resources Plan, Volume V-A.

TABLE B3- NEW RIVER BASIN INDUSTRIAL EFFLUENT LIMITATIONS*

Parameters in Average kg/day or (Concentration) as mg/l

FACILITY NUMBER						
MAP NUMBER 20 APCO 004 401 501 006	BOD_5 1.14	SS 382 1.14 318	OIL & GREASE 192 159	IRON (1.0) MAX	COPPER (1.0) MAX	
21 Burlington Industries 001	BOD_5 346	SS 354	PHENOLS 1.7	SULFIDE 0.9	ALUMINUM 1.0	
22 Celanese Fibers Co. 002 003	FLOW (MGD) 2.8 3.5	BOD_5 (30) 2,999	SS 2,023	COD 27,694		
23 Hercules, Inc. 001	SS 34					
24 Lynchburg Foundry 001	SS 143	OIL & GREASE 53.1	PHENOLS 1.04			
25 RAAP Combined Ind. 026	FLOW (MGD) 1.0	BOD_5 114	SS 6,714 114	COD 237	OXIDIZED NITROGEN 18,697	SULFATE 565 67
26 New Jersey Zinc 001 002 003 004 005 006	BOD_5 2.3	SS (38) (.30) (20) (30) (30) 2.3	TOTAL CYANIDE (0.02) (0.02) (0.25)	DISSOLVED LEAD (0.25) (0.25) (0.35) (1.0) (0.25) ------	DISSOLVED ZINC (1.0) (1.0) (1.0) (0.25) (1.0) ------	DISSOLVED IRON (0.3) (0.25) (0.25) (0.25) ------

27 Elk Creek Raycarl Products	SS (5)	OIL & GREASE (10)	IRON (1)	PHOSPHATE (2)	ZINC (0.5)	
28 Fields Mfg	BOD_5 3.6	SS 4.1	OIL & GREASE 0.8	TEMP. 75°F		